



MISSOURI BOTANICAL GARDEN

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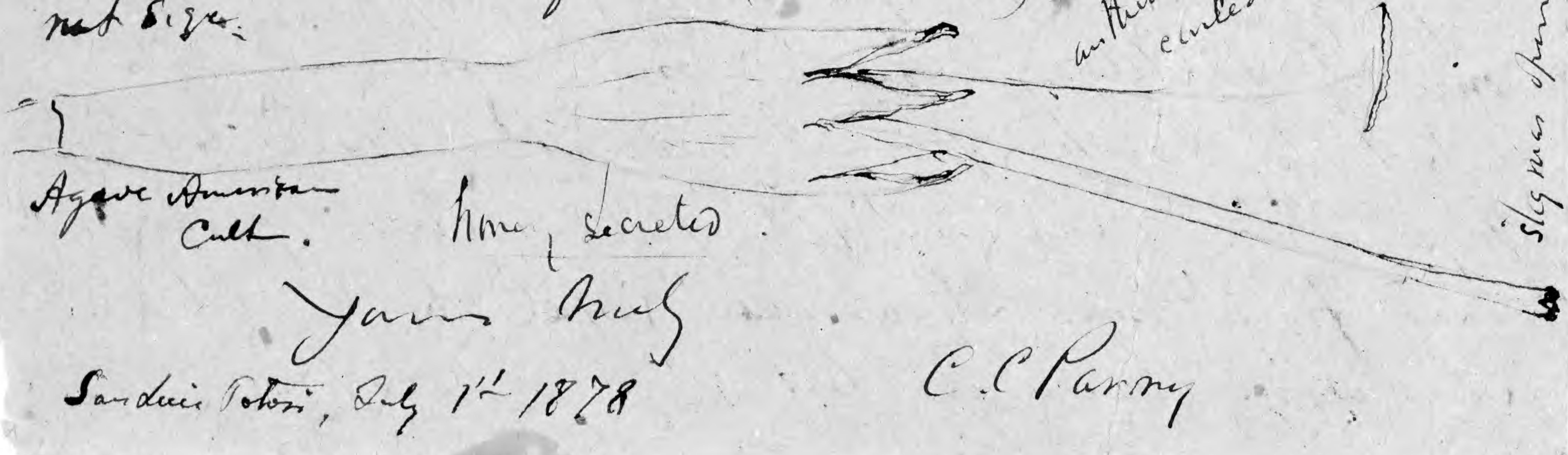


GEORGE ENGELMANN BOTANICAL NOTEBOOKS

Pagination Note:
Since many of the items lack a specific page number, the page number displayed online refers to the sequentially created number each item was given upon cataloging the materials.

The long fiber sent before is the ordinary
maguey fiber - A bunch of cultivated *A. Americana*
just brought in with stigma, mouth full
developed. The fl. were full of water, honey, but
I suspect most of it from last night's rain.

The Mass of fl. is very dense perigon segments
shorter than wild form (see sketch)
not 8 in.



0 1 2 3 4 5 6 7 8 9 10

cm

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8071 From some of Mr. Davenport friend at
meeting, W. A. S. Duncan will probably be
down with his Ma.

I shall be on ~~freight~~ hacks at Saltillo but
later than Misleren. and ought to pick up
some good things. If this letter reaches you
say by July 29th you might answer at
once to Saltillo & give me some items
what to look for. I understand there are
high Mts near. Get full items of Mts
road from here. If a ~~new~~ "Gospel shark" who
is slipping here on his way to Zacatecas.

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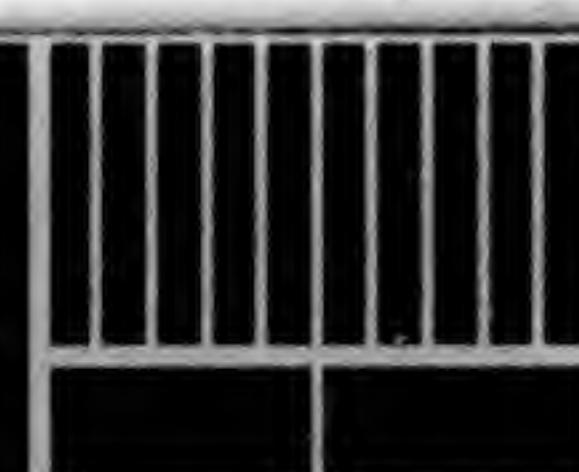

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865½ Agave (Paniceae) Potosi
San Luis, Paraguay July 27 1879
1878



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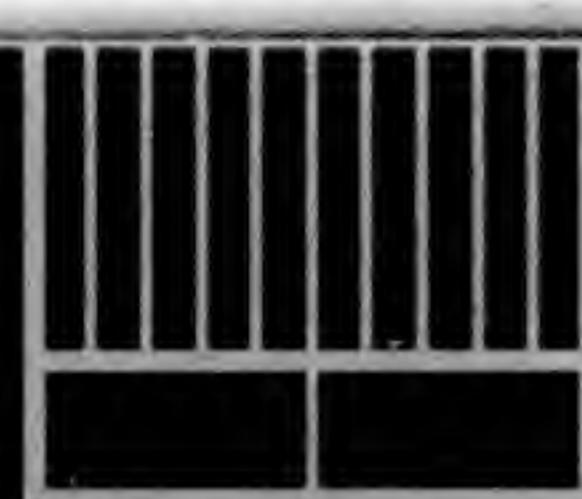
8072

Henry T. Bonhiffin,
APOTHECARY,
9

No. 2600 Faedde Ave., S. W. Cor. Jefferson Ave.
ST. LOUIS, MO.

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Al



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Agave Canibea Oct 12 1882
martiana
M. Hahn 1867.
- 66 Gray

anthers 22-24 mm long

ovary 35

perigon 27 mm

tube 8 } stamens inserted $1\frac{1}{2}$ mm

lobes 18-20 }

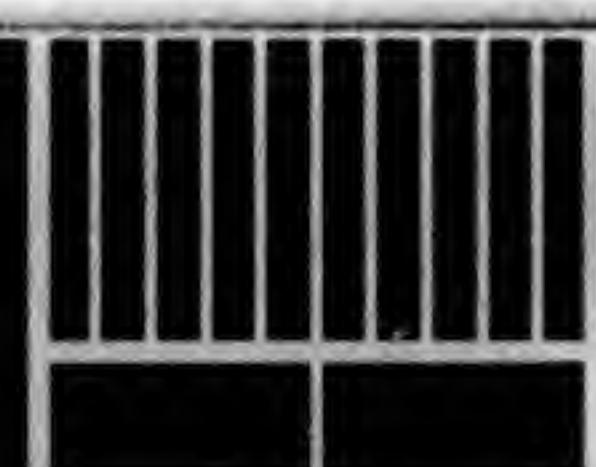
below jaws,

ovary & neck 35

about 10 or 12 mm
longer than perigon

flower 65 mm

ovary much longer than perigon, long peduncled
perigon over 1 inch long, lobes more than twice as long as shallow, infundibular
bulbous tube; stamens inserted a little below the jaws, half as long
as the lobes - anthers nearly 1 inch long



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Leitch & Corlies

DAVURGANS

South West Fifth Market
Corner and Market
Streets.

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Agave

Oct 11 1882

Kochioco, Mexico. Michael Bahn 1865
Hb. Gray ex Herb. Mus. Paris

anthers 27^{mm}

style 50 (full length?)

fls. to same length

perigon 38 mm

tube 7 38 mm

Color 31

ovary 25

fls. inserted

1 $\frac{1}{2}$ +2 mm below
throat

perigon about 1 $\frac{1}{2}$ times

long, longer than ovary

color linear more than
4 times as long as short

tube; fls. inserted

above middle of tube, color purple



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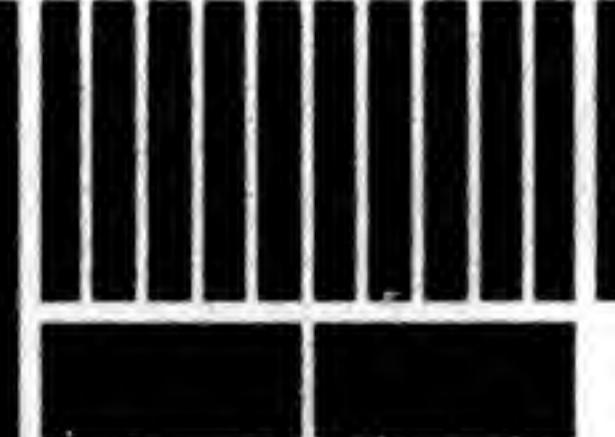
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W^m Bartram's travels Thieland 1791.
introductio p. XXVII . between The Musquitos Rivers
[- east florid] and the Ocean - & came up a fork
of the Agua vivipara - - - - - rises nearly 30 feet
high - - occupying several acres. When thunder'd,
the water ^{goes flat to} falls to the ground & vegetates
they vegetate on the branches and when the sage dries, the



It is evidently the Agave sketching
shown on his map, and must be *A.
neglecta*, from about the upper part of its range.
W.B.



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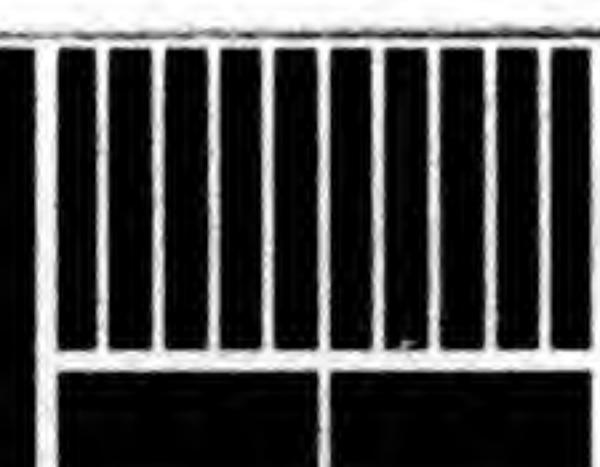
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Agave = Magey maghei
the last is scarcely
fibre Hebra
very thin Thread Pita
twine Condell's
rope Jarcia (Chassia)
for Dr Barreita



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Dear John

Please come at once
I have ordered a
carriage for you



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1025 **Röding, F. H.**, Allgem. Wörterbuch der Marine. Met 115 Abbild. Hamb. 1793. 4 vol. d. veau. 4^o. *Rare.*
Les 287 prem. pages du tome I contiennent une Littérature de la Marine; le vol. II contient tous les planches.

1026 Chassériau, F., Précis histor. de la Marine Française, son organisation et ses lois. Par. 1845. 2 forts vol. 8^o.

1027 Falconer, W., Universal dictionary of the Marine. W. a vocabulary of french sea-phrases and terms of art. Enlarged by W. Burney. Lond. 1820. Avec 35 pl. toile. 4^o.

1028 Grandprè, A. de, Répertoire polyglotte de la marine. Par. 1829. 2 vol. d. v. 8^o.

1029 Dictionnaire de marine. Amst. 1736. Av. figg. veau. 4^o.

1030 Dictionnaire des mots et termes de Marine, Hollandais-Français. in fol. Manuscrit de la main de Mr. **J. H. van Swinden**, de la fin du 18me siècle. Les articles sont découpés et collés suivant l'ordre de l'alphabet, sur des ft. in-fol.

1031 Charnock, J., Hist. of marine-architecture and of the nautical regulations, especially of Gr. Britain. Lond. 1800. 3 vol. Av. nombr. pl. d. veau. 4^o.

1032 Duhamel du Monceau, Scheepsbouw. Grav. 1759. M. pl. led. b. 4^o.

1033 Tideman, B. J., Verh. over de scheepsbouwkunde als wetenschap. Amst. 1859. Met 2 pl. 8^o.

1034 Udemans, W., Nederl. scheepsbouw. Middelb. 1757. Met pl. 4^o.

1035 Witsen, N., Aeloude en hedend. scheepsbouw en bestier. Amst. 1671. Met pl. h. fr. b. fol.

1036 Yk, C. v., Nederl. scheepsbouwkunst. M. pl. Delft. 1697. veau. fol.

1037 **Breen, J. v.** Stierman's compleet offte h.



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997 Des Cartes, R., *Geometria. Cum notis F. de Beaune, ed. F. à Schooten.* Amst., Elzevier. 1659. 2 vol. Av. portr. et figg. vél. 4^o.

998 Eckhardt, *Beschrijving van een algem. graphometer.* 's Grav. 1787. Av. 12 pl. fol.

999 Ferrers, *Nieuwere meetkunde, d. C. J. Matthes.* Amst. 1869. 8^o.

1000 Lacroix, S. F., *Traité du calcul différentiel et intégral.* 2e éd. augm. Paris. 1810—19. 3 vol. d. mar. 4^o. *Très-bel exempl.*

1001 — — — *Calcul différentiel et calcul intégral.* 4me éd. Par. 1828. Av. pl. dem. veau. 8^o.

1002 — — — *Trigonométrie et application de l'algèbre à la géométrie.* 8me éd. Par. 1827. Av. pl. 8^o.

1003 Legendre, A. M., *Exercices de calcul intégral.* Paris. 1811—16. 3 vol. Av. figg. dem. veau. 4^o.
Avec les suppléments aux tom I et III.

1004 Marolois, S., *Oeuvres mathématiques.* Publ. par Th. Verbeeck et F. v. Schooten. Amst. 1628. Avec figg. demi veau. 4^o.

1005 Nispen, M. v., *De beknopte landmeetkonst.* Dord. 1662. Met fraaije pl. h. bd. 8^o.

1006 Petri, N., *Practique om te leeren rekenen, cypheren ende boeckhouden.* (Amst.) 1591. 4 dln. 1 h. bd. 2e druk. Met fraai portr. door Goltzius op den titel. 8^o.

1007 — — Hetz. werk. Z. pl. 1596. h. 1. bd. 8^o. Met portr. in houtsnede.

1008 — — Hetz. werk. Amst. 1605. h. bd. Met ander fraai portr. geteek.: 1603. — *bis.* Amst. 1635. h. bd. Met hetzelfde portr. 8^o.
Zeldzame collectie van dit beroemde rekenboek.

1009 Puissant, L., *Traité de géodésie.* 2e éd. Par. 1819. 2 vol. Av. pl. d. v. 4^o.

1010 Rami, P., *Meetkonst vert. d. D. Hendriksz en verm. d. W. Snellium.*

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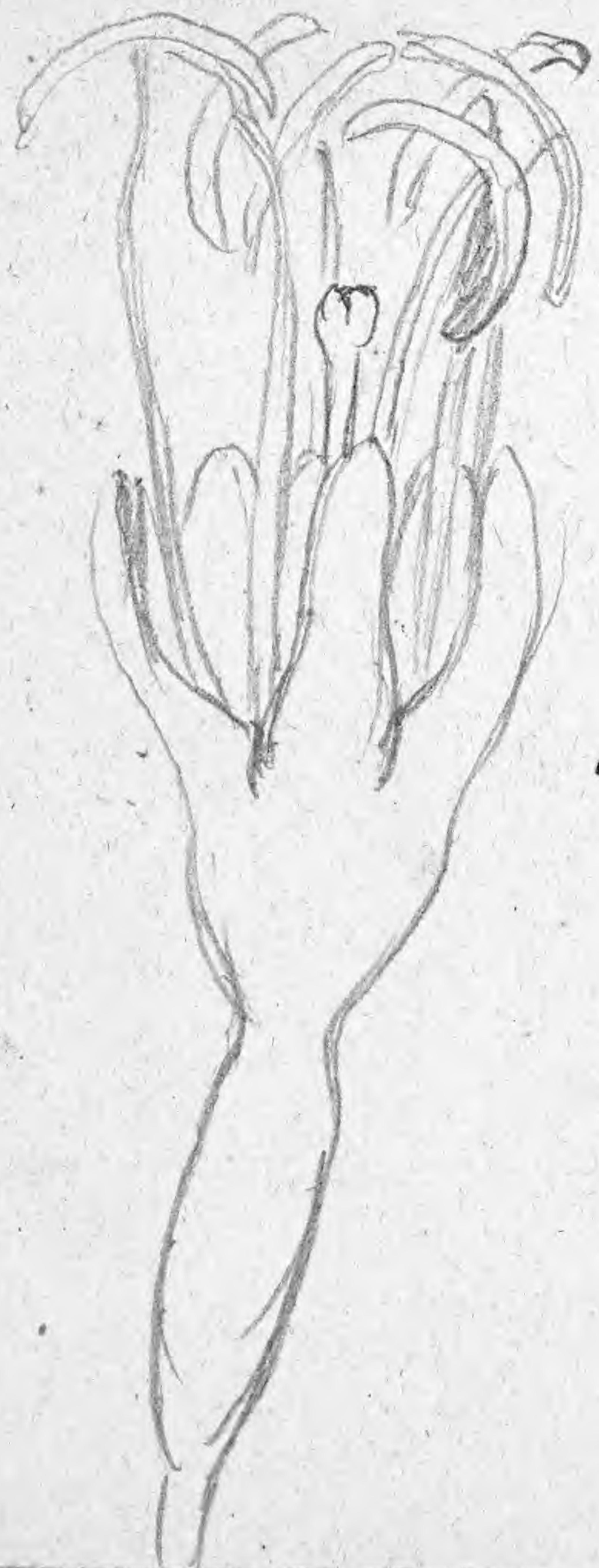
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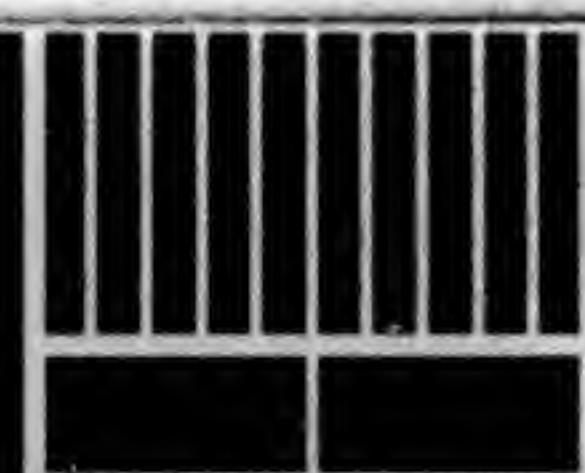


Agave Americana
Teneriffa, in lignis,
202 Bouygues 1845

Wagleri Georg
1868

ex H. Cesati

glossy fl. T. 415 :
corolla usque pollinaria tubo obtuse 6-sulcata
intus non aristifera, lóbulo laevissime tuto d'uplo
longiora, oblonga lóbulos concavae
obtusioribus oriacue interne ad
apicem pilorum fructu et lócula quoque
allida ac puberula parum inferne
producte instructae, genae invicem
ante anthesin coherent. 2. Genua
corollam d'uplo excedentia semiteretis
apice attenuata. anthesia lóbulos
aequilatera pollinaria longae versatile
apicibus evanescere natis vel b. fida.
stylos crassus corollae aequilateris inde
d'uplo et ultra longior
odor ingens per sternoruncus.



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Agave stenopetala?

Aug 29 1871

heights of Tecamachalco

near Mexico

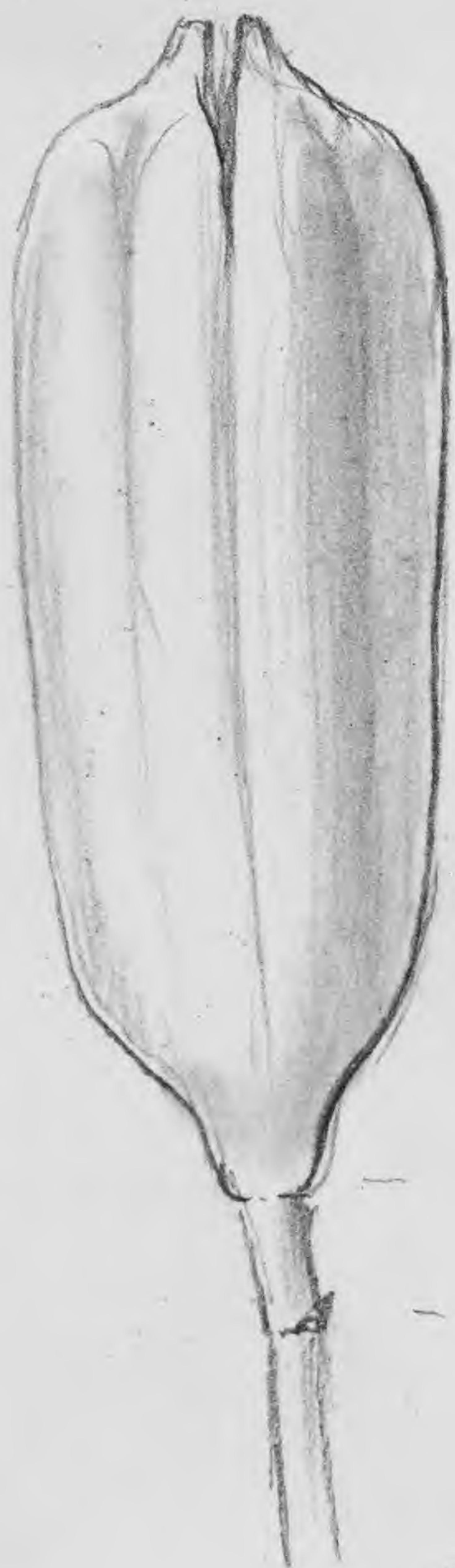
for A Braun

L. Hahn 1867

seedlings in Bush with very
narrow leaves

x4

seed bright & shiny



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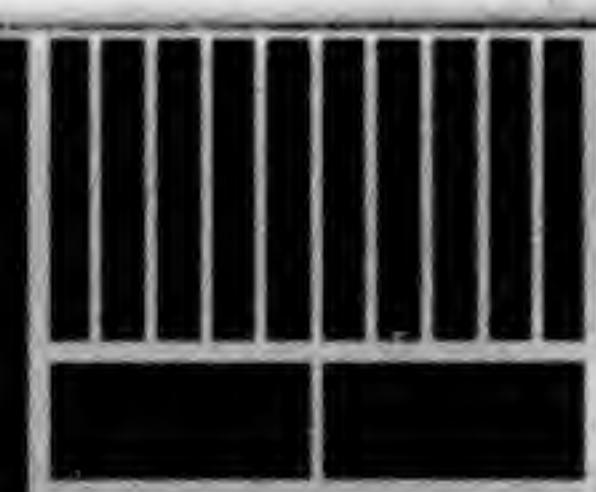
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Veitch & Co. (LONDON)

DRUGGISTS
South West Corner Fifth and Market Streets.

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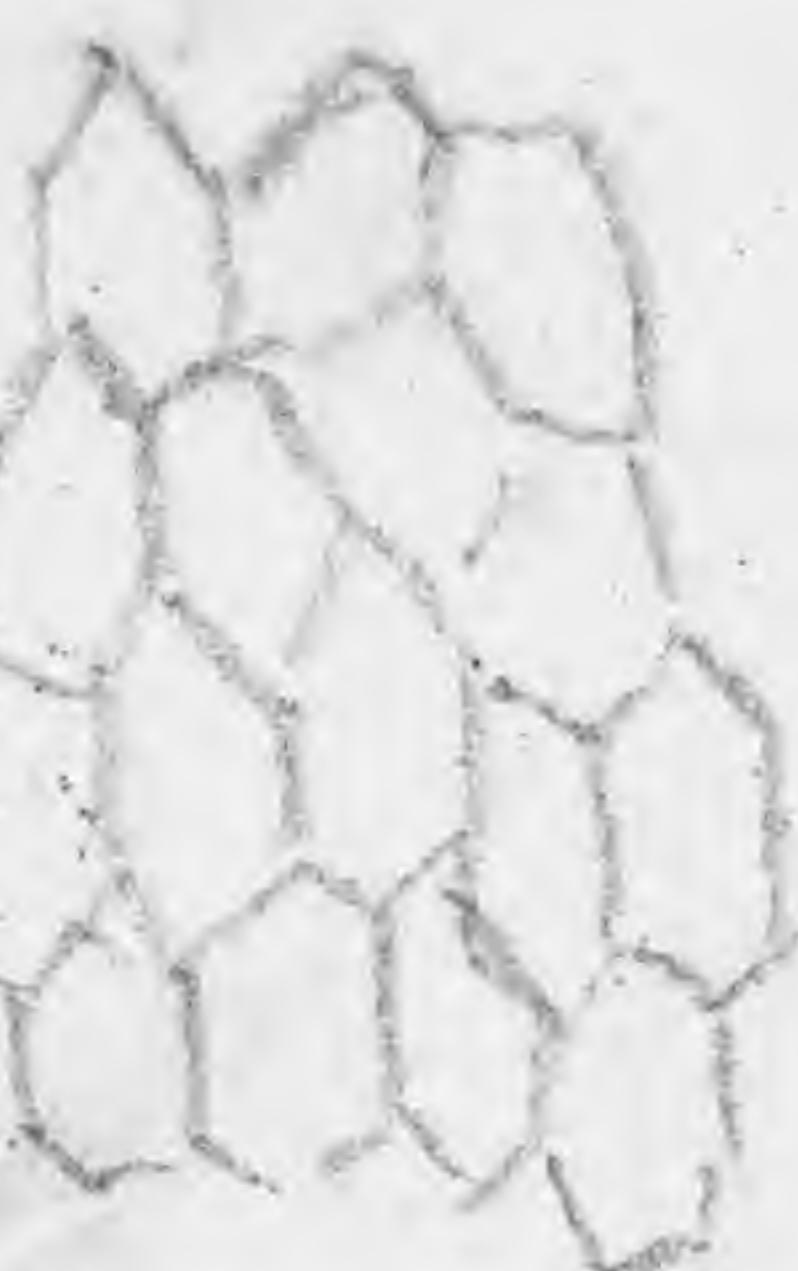
Agave Americana

May 15 1872

C. H. H. Mission

seed white, envelope

$\times 150$



0.04 mm
long

A. Americana

Tallillo

Sept 7 1871

anther

25 { in figure (soaked) 30

45 filament

except part 15

within perigon 30

44-45

lobes

25

40 perigon

40

tube

free

5-6

15

staminate

10-9

32

72

32 ovary



0

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Leitch & C. & C.
DRUGGISTS
South West Corner Fifth and Market Streets

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MISSOURI BOTANICAL GARDEN
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Leitch & C.
DRUGGISTS
South West Corner Fifth and

8083



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Agave Americana June 25 1871
from an unripe capsule - H. B. Reinhard

x4



immature, white,
but full grown



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Leitch & Corlies

DRUGGISTS

West Corner Fifth and Market Streets

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Agave

May 15 1872

L. Hahn, Mexico

x150

surf shining, glossy

cells flat



8-9

150

= 0.08-0.06
mm long



Agave Americana?

Cult. Saltillo

Dr. Gregg

Dec 24

1866

lobis tubo perigonii
sequi longioribus

lobis tubo
completum
ultra medium
quadrate
irregulariter



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150/900 10,00
75 0.06



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Marble Building Cor. Fourth & Olive Sts. St. Lou

8086



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Honey does not appear till the stigma begins to lengthen about 3² day from opening. remains till the stigma is fully grown & open. — It is copious enough to fall out in drops when split open is rather thin, quite sweet not foetid

The observation was made on a fl. branch brought from the Ms. containing about 20 flowers in a moderately close panicle. When brought the buds were mostly fully developed. but did not open for several days. The freshly cut stem was kept in a jug of water. The flowers opened in succession. a few of the smaller withered & fell off, but the majority seemed to go through the process of development naturally possibly in the artificial condition. The process was rather shortened. the pollen became sooner effective and the stigmas did not attain full length, but the process in the different flower was quite regular. The sketches are of a single flower (specimen of different stages, preserved)



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1st day

Agave Americana L. ?

native from from Sierias.

no, disti

McClosky, San Luis Potosi June 1878



not size



12 in



5 in

color of penion off
always conivent

June 13th 9 AM



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Measurements of a different flower
Jan 9th to 14th

8088

Size { ovary $1\frac{3}{4}$
perigon $1\frac{3}{4}$ including tube & segments
Stamens $1\frac{1}{2}$ fully straightened
Sum 5 inches

Jan 9th 11 AM stigma = the perigon $3\frac{1}{2}$ inches
above base of ovary
" 10th 2 PM " 4 inches " " "
" 11th 8 AM " $4\frac{1}{2}$ " " " "
" " 2 PM " $4\frac{3}{4}$ " " " "
" 12th 8 AM " $3^{\frac{1}{2}}$ " = stamens " " "
" 13th " " " $5\frac{1}{4}$ " stigma elongated " "
" " 1 PM " $5\frac{1}{2}$ " " " "
" 14 " 7 AM " no increase in length. The
stigmatocarpous surface glutinous. Perianth
withered

Aman American 18.
notes on its development
Jan 1878 John C. Parry

Figure brought in from the Sierras

[This sheet an-
closed sheet 87-88.]

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Agave Americana, scape now (1⁸⁷⁸ May) 20 feet high, thickly
sheathed with bracts, no branches expanding yet.

An extreme form has leaves only 10½ inches long (including 2-inch spine)
and 5 wide; lateral teeth irregular in direction and length.

San Luis Potosi Dr. Parry May 878



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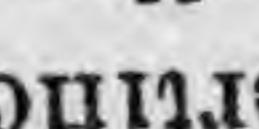
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line of Two Hundred and Fifty Dollars.

 Sextons receiving Burial Certificates without the signature of the Clerk of the Board of Health, will subject themselves to a

Clerk Board of Health.

M. Ø.

requirements of the Board of Health.

I CERTIFY that I have examined this Certificate, and find it to accord with the

187

St. Louis, Mo.

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Flower 82 mm

perigon 48

lobes $\frac{1}{3}$ longer than tube (30:19)

ovary 36 - $\frac{1}{4}$ shorter than perigon

"*Agave attenuata*"

wild at Saltillo, Parry

July 27 1879

Soaked

Dry

anther 29

20 mm

plant above flower 50

32

lobes 30

28

tube 19

17

ovary 36

32

exterior perianth

9 or 10 mm longer than

inner ones

insertion of filaments 7 mm below fairly 12" above base

of tube

of tube

anther
Soaked
29 mm

spine 2 $\frac{1}{2}$ inch
long

decurrent

2-5 inches
deeply grooved

$\frac{1}{3}$ its length



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Agave Americana

Scimor Dec 28. 1883 p. 836

~~ex Arbor. anthrop. 13, 13. (2nd var?)~~

Analysis of fresh sap of Pigue

Alumino-silicate	2.5	1.3
Sugar	9.6	0.8
Silts	0.7	0.2
Absolute Alcohol	0.0	3.7
Water and waste	87.2	<u>94.0</u>
	<u>100.0</u>	

Carlo Beni



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Agave Americana

Essai polémique sur la Nouvelle Espagne.

par A. de Humboldt

tom II. Paris 1811

(first edition in possession of Dr. Whipple)

p. 418 The Maguey or Mettl, which are cultivated in Mexico form numerous varieties of the Agave Americana, now so common in our gardens.

The best fields I have seen were in the valley of Toluca and the plains of Cholula. They are planted in rows 15 decimetre (about 5 feet) apart.

p. 419 Here a plant of 8 years already begins to show signs of flowering; the innermost smaller leaves (corazon) are then cut; the wound is gradually enlarged. A plant gives its juice for 2 or 3 months - about 8 quartillos [parts] or 1 gallon (4 cubic decimeters) (or 3 at sunrise, 2 at noon, and 3 at sunset). Very vigorous plants may furnish up to 15 quartillos daily, for 4 or 5 months!

Fermentation of pulque takes 3 or 4 days

p. 420 The plant dries up, after the juice is exhausted and numerous shoots originate from the base.

On one arpent grow about 1200-1300 plants and it may be calculated that $\frac{1}{2}$ or $\frac{1}{4}$ of these would flower every year - therefore give its juice.

The Agave may bloom in 5 years, but in poor soil it may take 18 years - An Agave plantation on an average becomes lucrative after 15 years.

p. 421 It is said that a smaller variety with less glaucous leaves furnishes the best Mexical, or distilled liquor.

p. 422 The juice of plants that are not yet going to flower, is acidic and is used to dress wounds with.

The fibre pita is used for tissue - cards, and intersected and crosswise glued together furnished paper, on which after writing still exist.

Flowers in August, according to "Plantae aequinoct."

Drawn by



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No mention is made of the Yucca fiber plant,
nor of the Agave & Yucca roots being used for soap
I can not find the name Yucca in the register.

de Candolle Geogr. botanique (1855)

p. 630 Agave annua naturally in the old world

p. 739 a a resting at native on the Mediterranean

springing up spontaneously from seed. ?? DC knows
nothing about it

p. 835 Is it found wild now in Mexico? Humboldt says
nothing about it. - Cultivated very ancient.

p. 983 unknown in the native state.



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[This sheet enclosed sheet 87-91.]

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